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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/917,705	07/31/2001	Kazuhisa Yoshiwara	500.40399X00	9897

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EXAMINER	
QUIETT, CARRAMAH J	
ART UNIT	**PAPER NUMBER**
2612	

DATE MAILED: 01/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/917,705	YOSHIWARA ET AL.	
	Examiner	Art Unit	
	Carramah J. Quiett	2612	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *31 July 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-16* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,5-7,11,12 and 16* is/are rejected.

7)☒ Claim(s) *2-4,8-10 and 13-15* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *31 July 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *01072005*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

2. The information disclosure statements (IDS), filed on 07/31/2001, 12/05/2001, and 12/13/2004, have been placed in the application file, and the information referred to therein has been considered as to the merits.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. **Claims 1, 5-7, 11, 12, and 16** are rejected under 35 U.S.C. 102(e) as being anticipated by Takayama et al. (U.S. Pat. #6,683,643).

As for **claim 1**, the second embodiment (fig. 8, col. 16, line 25 – col. 18, line 61) of Takayama teaches a method of detecting a defective pixel of an image-pickup apparatus with a plurality of solid-state image pickup devices which receives a respective one of spectral lights obtained by separating light incident to the image-pickup apparatus (fig. 7, col. 15, lines 38-42). Please note that the second embodiment is similar to the first embodiment (col. 16, lines 25-32). Takayama's image pickup apparatus comprises the steps of:

- generating a value relating to a defect of an inspected (targeted) pixel (col. 13, lines 1-16) on each said solid-state image-pickup device (col. 15, lines 38-42) based on a signal level produced from said inspected pixel and signal levels produced from a plurality of pixels in the vicinity of said inspected pixel on said solid-state image-pickup device (figs. 1 and 8; col. 16, line 25 – col. 17, line 21); and
- detecting a defective pixel based on said value relating to a defect of said inspected pixel of each said solid-state image-pickup device (figs. 1 and 8; col. 17, lines 22-44).

For **claim 5**, Takayama teaches a method, wherein said plurality of pixels in the vicinity of said inspected pixel include a plurality of pixels adjacent to the pixels in the vicinity of said inspected pixel (col. 15, line 38 – col. 16, line15).

For **claim 6**, Takayama teaches a method, wherein said generating step and said detecting step are implemented in each time when video signals are produced from said plurality of solid-state image-pickup devices (fig. 1, ref 6; col. 11, line 45-51).

As for **claim 7**, the second embodiment (fig. 8, col. 16, line 25 – col. 18, line 61) of Takayama discloses an image-pickup apparatus comprising:

- a separator for separating light incident to said image-pickup apparatus to provide a plurality of spectral lights (col. 3, lines 1-18; col. 15, lines 38-42);
- a plurality of solid-state image-pickup devices for receiving said spectral lights to produce video signals respectively (col. 15, lines 38-42).
- a comparator circuit (figs. 1 and 8, ref. 6 and step S7) for comparing a signal level from an inspected pixel and signal levels from a plurality of pixels in the vicinity of said

inspected pixel on said sold-state image-pickup devices (col. 11, lines 59-64; col. 13, lines 5-8; col. 16, line 56- col. 17, line 12);

- a detection circuit (fig. 1, ref. 6; col. 11, lines 18-21) for detecting a defective pixel on said plurality of solid-state image-pickup devices based on said signal level obtained from said comparator circuit (col. 13, 55 – col. 14, line 8);
- a correction circuit (fig. 1, ref. 6) responsive to said detection circuit for correcting a signal level from a defective pixel on said solid-state image-pickup device (col. 11, lines 11-26; col. 14, lines 27-44); and
- a video signal processing circuit (fig. 1, ref 6) for producing a video signal on the basis of the corrected signal level from the correction circuit (col. 11, lines 11-30).

For **claim 11**, an image-pickup apparatus, wherein said plurality of pixels in the vicinity of said inspected pixel include a plurality of pixels adjacent to said pixels in the vicinity of said inspected pixel (col. 15, line 38 – col. 16, line15).

For **claim 12**, Takayama discloses an image-pickup apparatus, wherein said correction circuit (fig.1, ref. 6) includes circuits responsive to said detection circuit for replacing a defect signal from said defective pixel on said solid-state image-pickup device with an average value of said signal levels from said plurality of pixels in the vicinity of said defective pixel (col. 14, lines 45- col. 15, 37).

For **claim 16**, Takayama discloses an image-pickup apparatus further comprising an external circuit (fig. 1, refs. 15 and 16) for controlling said defect signal in accordance with a level of said defect signal of said defective pixel (col. 11, lines 41-44).

Allowable Subject Matter

5. **Claims 2-4, 8-10, and 13-15** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

6. The following is a statement of reasons for the indication of allowable subject matter:

For **claim 2**, the prior art does not teach or fairly suggest a method according to claim 1, wherein the detecting step includes the steps of calculating deviations of said difference of each said solid-state image-pickup device from average values of differences of at least other solid-state image-pickup devices and comparing said calculated deviations with one another to determine the defective pixel on said solid-state image-pickup device.

For **claim 8**, the prior art does not teach or fairly suggest a method according to claim 7, wherein said comparator circuit calculates, in each said solid-state image-pickup device, a difference between a value of the signal level from said inspected pixel and an average value of signal levels from said plurality of pixels in the vicinity of said inspected pixel on said solid-state image-pickup device and generates a value relating to said defective pixel; wherein the detecting step includes the steps of calculating deviations of said difference of each said solid-state image-pickup device from average values of differences of at least other solid-state image-pickup devices and comparing said calculated deviations with one another to determine the defective pixel on said solid-state image-pickup device.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

U.S. Patents

Yasui et al. (U.S. Pat. #6,081,917)	Compares each of different color signals for correcting erroneous data.
Yoshida et al. (U.S. Pat. #6,424,382)	Compares each of different color signals for correcting erroneous data.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Carramah J. Quiett whose telephone number is (703) 305-0566. The examiner can normally be reached on 8:00-5:00 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wendy Garber can be reached on (703) 305-4929. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

C.J.Q.
Jan. 7, 2005

NGOC-YEN VU
PRIMARY EXAMINER